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POT 5/26/04

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A driving method for a solid-state image sensing device having a plurality of sensor portions arranged two-dimensionally in horizontal and vertical directions, and a vertical charge transfer portion adjacent said plurality of sensor portions provided with transfer electrodes comprising the steps of:

selectively applying high level driving pulses to groups of said transfer electrodes in a vertical transfer period; and

transferring signal charges read out from said plurality of sensor portions in the vertical direction;

wherein a period during a vertical transfer operation in which the number of groups of transfer electrodes receiving high level driving pulses becomes minimum is longer than that of other periods, and further wherein the driving pulses applied to the transfer electrodes are set to only a high level or a low level logic value.

2. (Currently Amended) ~~A driving method for a solid-state image sensing device according to claim 1,~~ A driving method for a solid-state image sensing device having a plurality of sensor portions arranged two-dimensionally in horizontal and vertical directions,

and a vertical charge transfer portion adjacent said plurality of sensor portions provided with transfer electrodes comprising the steps of:

selectively applying high level driving pulses to groups of said transfer electrodes in a vertical transfer period; and

transferring signal charges read out from said plurality of sensor portions in the vertical direction;

wherein a period during a vertical transfer operation in which the number of groups of transfer electrodes receiving high level driving pulses becomes minimum is longer than that of other periods,

wherein individual groups of transfer electrodes four systems and the vertical transfer period is divided into eight from periods t1 through t8, wherein periods t2, t4, t6 and t8, in which the number of groups of said transfer electrodes receiving high level driving pulses is two, are longer than the periods t1, t3, t5 and t7, in which the number of groups of said transfer electrodes receiving said high level driving pulses becomes three.

3. (Currently Amended) A driving method for a charge transfer device having a charge transfer portion and transfer electrodes of a plurality of different groups disposed in the charge transfer direction, comprising the steps of:

selectively applying a high level driving pulse to said transfer electrodes in a transfer period; and

transferring signal charges in a charge transfer portion;

wherein a period during a charge transfer operation in which the number of groups of said transfer electrodes receiving high level driving pulses becomes minimum is longer than other periods, and further wherein the driving pulses applied to the transfer electrodes are set to only a high level or a low level logic value.

4. (Currently Amended) ~~A driving method for charge transfer devices according to claim 3,~~ A driving method for a charge transfer device having a charge transfer portion and transfer electrodes of a plurality of different groups disposed in the charge transfer direction, comprising the steps of:

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selectively applying a high level driving pulse to said transfer electrodes in a transfer period; and

transferring signal charges in a charge transfer portion;

wherein a period during a charge transfer operation in which the number of groups of said transfer electrodes receiving high level driving pulses becomes minimum is longer than other periods,

wherein the groups of transfer electrodes are correspondingly associated with four systems and the vertical transfer operation is divided into eight periods from t1 through t8, wherein the periods t2, t4, t6 and t8, in which the number of groups of said transfer electrodes receiving high level driving pulses is two, are longer than the periods t1, t3, t5 and t7, in which the number of groups of said transfer electrodes receiving high level driving pulses is three.

5. (Currently Amended) A charge transfer device having a charge transfer portion with transfer electrodes;

wherein high level driving pulses are selectively applied to different groups of said transfer electrodes in respective time periods during a charge transfer operation;

signal charges in the charge transfer portion are transferred; and

a period in a charge transfer operation, in which a number of groups of said transfer electrodes receiving high level driving pulses becomes minimum is longer than that of the other periods, and further wherein the driving pulses applied to the transfer electrodes are set to only a high level or a low level logic value.
